HYDRO-ELECTRIC INQUIRY COMMISSION

REPORT

ON

ST. LAWRENCE SYSTEM

W. D. GREGORY, CHAIRMAN
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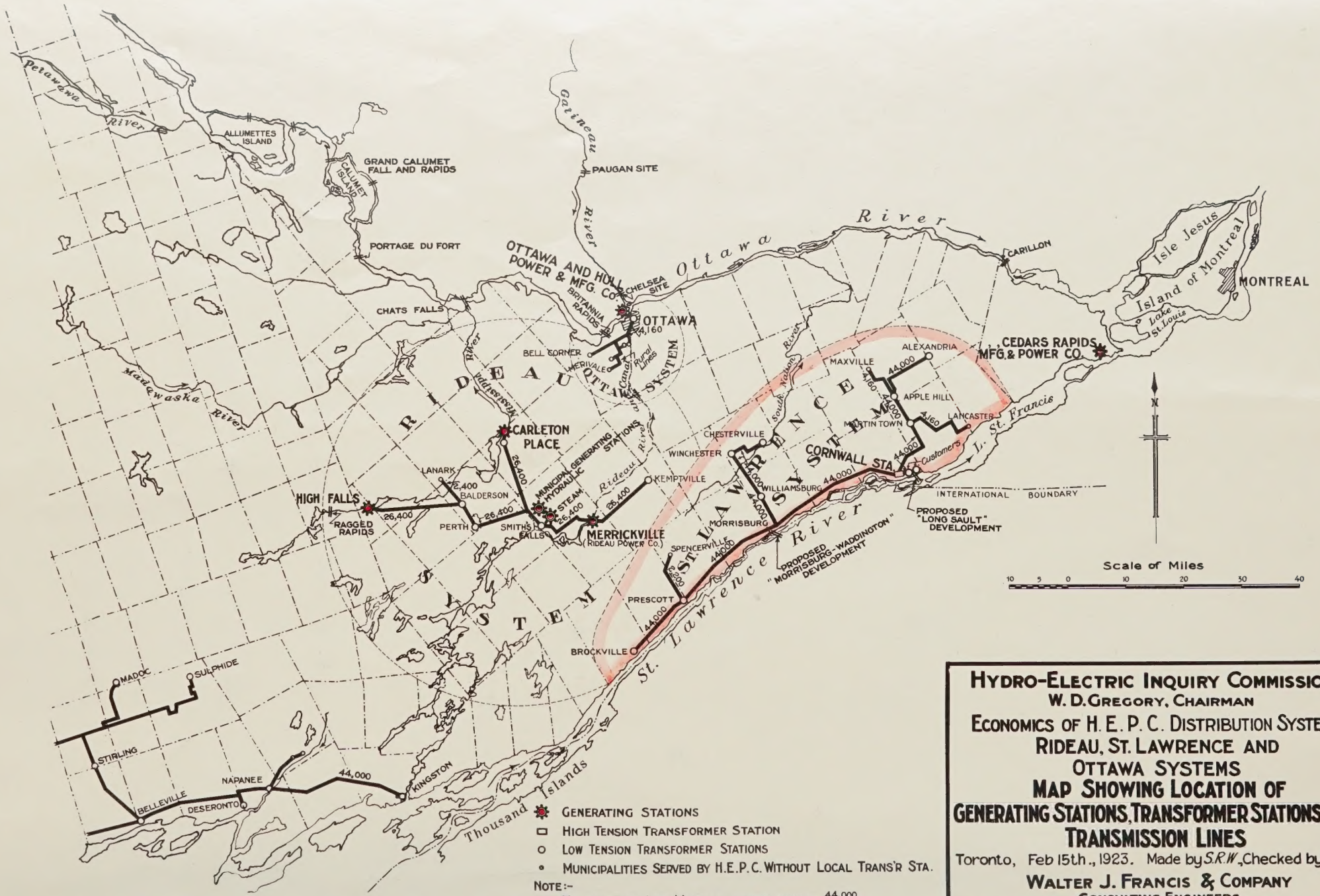

HYDRO-ELECTRIC INQUIRY COMMISSION
W. D. GREGORY, CHAIRMAN

ECONOMICS OF H. E. P. C. DISTRIBUTION SYSTEMS
RIDEAU, ST. LAWRENCE AND OTTAWA SYSTEMS
MAP SHOWING LOCATION OF GENERATING STATIONS, TRANSFORMER STATIONS AND TRANSMISSION LINES

Toronto, Feb 15th., 1923. Made by S.R.W., Checked by W.J.F.

WALTER J. FRANCIS & COMPANY
CONSULTING ENGINEERS

To His Honour Henry Cockshutt,

Lieutenant-Governor of the Province of Ontario.

May it Please Your Honour:-

The Commission issued to us having directed us to inquire into, consider and report upon all matters of expenditures and administration by the Hydro-Electric Power Commission of Ontario (hereinafter referred to as "the Commission"), we proceeded to inquire into, amongst other matters, the institution and operation of that portion of the Commission's undertakings known as the "St. Lawrence System", and having considered the testimony of witnesses heard before us, reports of our Engineers and Accountants, copies of which are submitted herewith, and the records of the Commission, relating to this subject matter of inquiry, we respectfully submit our report thereon as follows:-

Location and Extent of the St. Lawrence System

Upon the map of part of the Province of Ontario, forming the frontispiece of this report, is shown within red lines portions of the Counties of Stormont, Glengarry, Leeds, Grenville and Dundas, which comprise the St. Lawrence System. The electrical power supplied throughout the system

To His Honour Henry Cockshutt,

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May it please Your Honour:-

The Commission issued to us having directed us to inquire into, consider and report upon all matters of expenditures and administration by the Hydro-Electric Power Commission of Ontario (hereinafter referred to as "the Commission"), as proceeded to inquire into, amongst other matters, the installing and operation of that portion of the Commission's undertaking known as the "St. Lawrence System" and having considered the testimony of witnesses heard before us, reports of our Engineers and Accountants, copies of which are submitted herewith, and the reports of the Commission, relating to this subject matter of inquiry, we respectfully submit our report thereon as follows:-

Location and Extent of the St. Lawrence System

Upon the map of part of the Province of Ontario, showing the frontispiece of this report, is shown within red lines portions of the counties of Lennox, Hastings, Prince, Grenville and Dundas, which comprise the St. Lawrence System. The electrical power supplies Ingersoll and Aylmer

is not generated by the Commission but is purchased by it, received at a main receiving and transforming station near the Town of Cornwall, and distributed to municipal corporations and private consumers in the district served, by means of substations and wood pole transmission lines, these lines having a total length of about 144 miles, and extending from Alexandria on the east to Brockville on the west and from the river front northwards to Maxville, Chesterville and Winchester.

The population of the district tributary to the system is about 85,000. Of these about 10,000 are in towns served by other power systems. On October 31st, 1921, the total population in the ten municipalities served by the system was about 18,500 with approximately 3,800 consumers.

Origin and Growth of the System

At a meeting held at Brockville in December, 1910, of representatives of several municipalities between Napanee and Morrisburg, it was resolved to request the Commission to prepare and submit estimates of the cost of supplying electric power to the municipalities represented.

Estimates were prepared by the Commission and submitted to the Municipality of Brockville towards the end of the year 1911. Early in the year 1912, contracts for supplies of

power were entered into between the Commission and the Municipal Corporations of the Towns of Prescott and Brockville. Contracts in pursuance of the Power Commission Act were later entered into by the Municipal Corporations of Chesterville and Winchester, and in November, 1913, the Commission had constructed, or had under construction, forty-five miles of transmission line. During 1914, the Municipalities of Prescott, Winchester and Chesterville, and in April, 1915, the Municipalities of Brockville and Williamsburg, were supplied with electrical power by the Commission.

The original estimates of cost of power were based upon an agreement under which the Commission had an option to purchase a supply of power from a generating plant at Waddington, New York. This option was not exercised, the Commission purchasing power at first from the New York & Ontario Power Company at Morrisburg, and later the Commission was supplied by the M. F. Beach Company at Iroquois.

In 1916, the demand for power increased to such an extent that the generating plant of the M. F. Beach Company was insufficient to satisfy the demand and necessitated the operation of the municipal steam auxiliary plant at Brockville in parallel with the plant at Iroquois. This operating arrangement was carried out throughout 1918, but the increasing load and a shortage of power led the Commission to change

its source of power supply to the Cedars Rapids Transmission Company in May, 1919, and the agreement then made has continued to the present time.

In 1921, the Municipalities of Alexandria, Maxville, Apple Hill, Martintown and Lancaster joined the system along with a large private consumer, the Cornwall Pulp and Paper Company which, however, went into liquidation after a short period of operation.

In 1922, the Eugene F. Phillips Electrical Works, Limited, established a factory in Brockville and entered into a contract for a large supply of power from the Commission. This necessitated a remodelling and strengthening of the transmission lines to Brockville and also the installation of larger transformers at the Cornwall substation.

Certain rural lines were constructed from Chesterville to Brockville in this year, and further additional lines are in contemplation and under construction at the present time under the provisions of the Rural Hydro-Electric Distribution Act, 1921 (11 Geo. V, Cap. 21).

At the present time about ten municipalities are being supplied by the system, as well as a small number of individual consumers some of whom require large blocks of power.

the source of power supply in the Dublin Digital Transmission Company in May, 1929, and the interview also gives data pertained to the present time.

In 1923, the Municipalities of Abbotsford, Sumas, Lynden Hill, Marshfield and Sumas joined the Lynden mills with a large private customer, the Abbotsford Pulp and Paper Company mills. However, only half Abbotsford "line" is still active at Abbotsford.

In 1924, the Bryson T. Phillips Electrical Supply, established a company in Abbotsford and started like a machine for a large supply of power from the Sumas. This company's operations are responsible for the transmission lines to Brownsville and also the installation of larger transformers at the Sumas substation.

Various rural lines were constructed from "Brownsville" mills be abandoned in this area, but further small/rural lines are in contemplation and under consideration at the present time which are particular of the Sumas-Sumas distribution and, 1951 (22 June, T. Phys. Hill).

As the present time about ten municipalities are being supplied by the system, as well as a small number of individual customers from/of some certain lines filled of power.

Capital Investment

From the commencement of construction in 1912 until October 31st, 1916, the Commission expended upon transmission lines and distributing stations of the system the sum of $176,658.00. On October 31st, 1921, the accounts of the Commission show an investment of $854,193.53, made up as follows:

Transmission Lines	$462,694.68
Transformer Stations	378,369.52
Rural Lines	13,129.33
Total	$854,193.53

The period between October 31st, 1916, and October 31st, 1921, during which the sum of $677,535.53 was expended, was, to a large extent, one of high cost of labour and material.

The main receiving station has been constructed for a capacity several times larger than the present load, and the distance between consuming points on the system has resulted in a large mileage of lines built for comparatively small present requirements. The total capital costs are, therefore, comparatively heavy for the actual use of power on the system, and until loads are considerably heavier this will form a burden on the municipalities served, especially in the smaller places where the demand is small.

Capital Investment

From the commencement of construction in July until December 31st, 1952, the Commission expended upon telecommunication lines and associated plant by the erection thereon the sum of $174,000.00. In October 31st, 1952, the Commission show an investment of $884,192.00, made up as follows:

Transmission lines	726,497.00
Telephone Exchanges	57,695.00
Rural lines	19,695.00
T o t a l	884,192.00

The period between October 31st, 1952, and October 31st, 1953, during which the sum of $174,000.00 was expended, was, to a large extent, one of high cost of labour and material.

The data relating thereto has been discussed for a somewhat several times larger than the previous year, and the division between expanding growth on the rapidly practice in a large mileage of lines built for comparatively small present requirements. The total capital costs are, therefore, comparatively heavy for the actual use at this on the system and small lines are overwhelmingly heavier this will form a strong on the municipalities served, especially in the smaller places where the income is small.

The following is a table showing the capital cost on a basis of horse-power purchased for the period from 1914 to 1921, inclusive:

	1914	1915	1916	1917	1918	1919	1920	1921
Transformer Stations	$ 43	$ 46	$ 64	$ 68	$184	$232	$123	$122
Transmission Lines	468	328	320	334	463	249	162	150
Rural Lines	-	-	-	-	-	-	-	4
T o t a l s -	$511	$374	$384	$402	$647	$481	$285	$276

It will be noted that in the capital costs per horse-power nothing is shown for generating stations as there are none on the system, but the figures include the cost of the Cornwall receiving station with the other transformer stations.

At October 31st, 1921, the Commission contemplated making further expenditures during 1922 and 1923 for extensions to miscellaneous stations and lines at an estimated cost of $288,600.00, and construction of rural lines costing approximately $107,400.00. With these expenditures the total investment in the St. Lawrence System at the close of the fiscal year 1923 will amount to approximately $1,250,000.00. The Commission may recommend that the Government pay one-half the cost of constructing the primary rural lines as provided in Section 4 of the Rural Hydro-Electric Distribution Act.

Reserve for Renewals

The balance in the reserve for renewals account at October 31st, 1921, amounted to $76,369.49.

The following is a table showing the output
over a basis of four-hour averages for the months
from 1914 to 1923, inclusive:

Transformer Section	3	4	5	6	7	8	9	10	11	12
Transmission Line Kilowatt Hours	428	328	340	384	464	398	182	124		

T a b l e 1 -

Unit Data Cons Sect Year Part Zone Site

Ie will be noted that in the original month per
half-hour basis is shown for generating stations in which
are made on the [illegible] the highest loadings for each of the
channel analysis stations with the other transformer stations.

At Oswego Line, 1921, the Consolidation accomplished
during further administrative period 1921 and 1922 the acquisition
given by miscellaneous services and lines at an estimated cost
of $428,428.38, and administrative at right about nothing equivalently $117,408.49. With other expenditures the total investment in the 21. Capital items at the close of the fiscal year 1923 will amount to approximately $1,620,408.16. The investigation has revealed that the structures of the [illegible] and to substituting the [illegible] provided in Section 6 of the Grand Trunk-Canadian Pacific Act.

Income for Income

The balance in the amount for revenue accounts at October 31st, 1923, amounted to $76,520.40.

The reserve for renewals had been provided through inclusion in the cost of power to the municipalities of an annual charge of 4 per cent. on the capital investment, together with interest at 4 per cent. per annum on the balance of the reserve account. During 1921, upon the advice of the engineers, the Commission reduced the annual renewal rate from 4 per cent. to 3 per cent., while the interest rate of 4 per cent. remained unchanged.

The accounts of the Commission were so adjusted that the rate of 3 per cent. was made effective from the inception of the system to October 31st, 1921, and this adjustment resulted in a reduction of $17,709.88 in the renewal reserve, and the cost of power to municipalities, during this period, was correspondingly reduced.

The annual rate of 3 per cent. was determined by a re-classification of the properties as reflected in the book accounts at October 31st, 1920, made by the Engineering Department of the Commission. The actual rate arrived at was 2.914 per cent., while the rate of 3 per cent. was adopted as a matter of accounting convenience.

The Engineering Department of the Commission made an error in computing the 2.914 per cent. rate which should have been 2.098 per cent., a difference of .816 per cent.

On December 20th, 1922, the Commission decided to reduce the depreciation rate for the system to 2 per cent.,

this rate to be retroactive to date of first operation. A revision was accordingly made and resulted in reducing the reserve for renewals by approximately $25,400.00, or to approximately $50,969.49 at October 31st, 1921. Of the reduction of $25,400.00, the sum of $22,600.00 has, we understand, been applied as a credit to the municipal corporations interested, and the sum of $2,800.00 added to contingency reserve. The reserve for renewals will, of course, in the future be built up by much smaller annual additions than in the past, with a proportionate reduction in the cost of power to municipal corporations.

While our Consulting Engineer has reported that the reserve for renewals as at October 31st, 1921, was somewhat larger than was necessary, the amount of the reduction made by the Commission in December 1922 has not as yet been reported upon by him, and the general subject of reserve for renewals for all systems will be further dealt with in our General Report.

It is pointed out, however, that the Commission only applied $2,800.00 of the reduction in reserve to the building up of the reserve for contingencies, thus bringing the total of this reserve up to approximately $6,000.00. As pointed out our Consulting Engineer considers that this reserve should amount to $12,000.00 or $15,000.00, and in this

this note be an reference to date of first operation.

A rating was consequently made and resulted in reducing the reserve for payments by approximately $22,490.12, or to approximately $2,362,12 as October 31st, 1921. If the reserve of $23,407.00, the sum of $22,490.00 has, so commented, been applied as a credit to the municipal corporations interested, and the sum of $1,207.00 added to contingency reserve. The reserve for payments will, of course, in the future be built up by much smaller annual additions than in the past, with a proportionate reduction in the rate of power to municipal corporations.

This was determined subsequent to the report that the reserve for payments as at October 31st, 1921, was even much larger than was necessary. The amount of the reduction made by the commission in January 1922 has not as yet been reported upon by them, and the primary purpose of making the reserve for all arrears will be further dealt with in our General Report.

It is pertinent, however, that the commission only applied $1,207.00 of the reduction in reserve to the building up of the reserve for contingencies, thus bringing the level of this reserve up to approximately $4,000.00. We point out that municipal corporations have also reduced their reserve funds by $17,292.00 or $14,000.00, and in this case the reduction has been made in the municipal corporations

recommendation we agree. The moneys in the contingency reserve are for the purpose of meeting unforeseen expenditures as for example the claim of the M. F. Beach Company.

Sinking Fund

All the municipal corporations of the St. Lawrence System having contracts with the Commission were, in accordance with the authority given by the Power Commission Act, relieved by the Commission from payment of any sum on account of sinking fund account for the first five years, the amounts required from such corporations on sinking fund account to be payable during the then next ensuing thirty years.

From the dates on which payments on account of sinking fund commenced until October 31st, 1921, the amount credited to sinking fund account and included in the cost of power was, with interest, $15,197.50 made up as follows:

Municipalities	$10,532.37
Companies	4,479.54
Interest	185.59
T o t a l -	$15,197.50

On October 31st, 1921, five of the ten municipal corporations of the system had been in operation more than five years and were paying sinking fund installments.

The following sinking fund collections had been made in respect of rural lines to October 31st, 1921:-

Brockville	$190.56
Chesterville	4.55
	$195.11

investments in Japan. The money in the subsidiary co-
ments are for the purpose of meeting contractual obligations
as for example the claim of the E. I. Dupont Company.

Mining Plant

At the monthly investment of its 40% ownership
plant during operations with the Consolidated Coal, in accordance
with the contract signed by the Power Commission and, pursuant
to the Consolidation Coal Company of Ohio has an estimated ex-
ing fund account for the first five years, the amounts capital
item such expenditures in excess of the amount to be paid
during the same period during which years.

COPY

Pursuant to the terms of the contract in regard to
existing fund accounted capital repayment plan, the amount
required in excess over the amount contributed to the mine
of power used with interest, difficulties made on the following

Depreciation	$17,317.87
Operating	4,429.16
Interest	1,000.00
Total	$22,747.03

On October 31st, 1944, five of the operating
capacities of the system had been in operation more than
five years and were placed during fund installments.

The following payment fund installments had been
made in payment of fund items as operating plan, 1944:

Depreciation	$100.00
Interest	4.00
	$104.00

Reserves for Contingencies

In addition to an annual charge of 25¢ per horse-power on the average amount of power supplied (excepting in the year 1920 when the rate established was $1.50 per horse-power) other amounts representing profits realized on sales of miscellaneous equipment have been used to augment this fund.

Our Consulting Engineer advised that the reserve fund for contingencies should be increased to $12,000.00 or $15,000.00. The expediency of increasing the fund has been recognized by the Commission in transferring from renewal reserve to contingency reserve the sum of $2,000.00, part of the reduction in the former resulting from the revision of rates made in December, 1922, to which we have made reference.

Accounts with Municipal Corporations

(a) The balance of power accounts receivable at October 31st, 1921, amounting to $49,295.61, represent unpaid balances in respect of interim power bills. It is found that all of these accounts were paid prior to September 20th, 1922.

(b) As a result of adjustments of the interim power bills rendered monthly to meet the cost of power, there was on October 31st, 1921, accumulated debit balances amounting to $18,635.74 against ten municipal corporations in the System. These balances included certain indebtednesses incurred during the first three years of operation, the time for payment of which may have been extended by the Commission in accordance with Section 23(a) of the Act. It appears

to be the practice not to collect adjusted balances from the corporations except by increasing interim rates in subsequent periods to cover accumulated deficits of prior periods. This practice appears to us inconsistent with the general policy of the Act which is to collect promptly the cost of power supplied during each year. The non-collection of yearly adjusted balances due for power to meet the annual costs, necessitates the employment by the Commission of funds in its hands from other sources to pay such costs, which we consider an improper procedure.

Results of Operation

Power is supplied the municipalities on the St. Lawrence System at cost in accordance with the provisions of the Power Commission Act. The cost of such power includes:

Operating and maintenance expenses.

Interest on the moneys invested in the works of the system.

Provision for the renewal of the works.

Sinking fund on a thirty-year basis to repay the investment in the system.

Provision for contingencies.

The Commission also sells power to private companies at fixed rates. Any profit or loss incurred in connection therewith is applied for or against the municipalities on the system.

to be the practice not to collect adjusted business from the corporations except by increasing rates in exceptional instances or during commercial crises or other periods. The practice appears to be inconsistent with the general policy of the law which is to limit permanently the rate of power supplied during each year. The non-collection of penalty authorizations the application by the Commission of funds in the hands from other sources to pay such costs, which we consider an improper procedure.

Results of Operation

COPY

Next in order is the municipalities on the St. Lawrence Operation of that in connection with the principles of the Power Commission Act. The cost of each power business

Operating and maintenance expenses.

Interest on the money invested in the works of the system.

Provision for the renewal of the works.

Interest upon the sinking-fund funds in the hands of the trustees in the system.

Provision for contingencies.

The Commission also calls upon the private companies at their rates. Any profit in this business is applied to equalize the municipalities on the system.

The following is an operating account for the four years ending October 31st, 1921, which shows the operating expenses and fixed charges together with the revenue obtained from the various customers (cents omitted):

	1918	1919	1920	1921
Revenue				
From municipalities	$27,744	$50,043	$78,498	$100,026
From private companies	-	3,969	22,870	32,966
T o t a l	$27,744	$54,012	$101,368	$132,992
Operating Expenses & Fixed Charges				
Operating & maintenance Costs	$15,903	$26,457	$50,646	$69,260
Interest	6,831	14,701	24,528	31,760
Provision for Renewals	6,831	13,571	21,537	20,941
Provision for Sinking Fund	-	-	4,639	10,372
Provision for Contingencies	179	397	3,185	659
T o t a l	$27,744	$55,126	$104,535	$132,992
Loss - transferred to Contingency Reserve	-	$1,114	$3,167	-
Total horse-power billed	717.3	1248.2	2123.7	2639.5
Cost per h.p. billed	$38.70	$44.16	$49.22	$50.40

The loss transferred to the contingency reserve represents losses sustained in furnishing power to private companies; the loss of $1,413.00 for 1921 arising in this connection was charged directly to the municipalities.

The capitalized is not operating company and the Niagara Falls Power Company Ltd., 1921, using which the operating expenses and fixed charges together with the amounts retained from the profits respective figures appear:

	1924	1923	1922	1921
Expenses				
Fuel consumption-Ontario	327,177	434,000	[illegible]	[illegible]
Less private companies	-	3,000	[illegible]	[illegible]
Total	327,177	431,000	[illegible]	[illegible]

Operating Expenses & Fixed Charges

Operating & Maintenance				
Wages	323,038	[illegible]	330,000	[illegible]
Interest	6,021	12,302	12,000	[illegible]
Provision for Depreciation	6,031	32,471	32,000	[illegible]
Provision for Contingencies	-	-	3,000	[illegible]
Sinking Fund				
Provision for Contingencies	173	201	3,130	[illegible]
Total	327,177	434,000	[illegible]	[illegible]

Less - Expenditures on Investigatory Charges - 93,114 93,107 -

Total Horse-power billed	1173.3	1084.4	1120.7	[illegible]
Cost per h.p. billed	288.70	398.16	348.32	[illegible]

The line transferred to the municipality results from Niagara Falls undertaken in furnishing power to Ontario municipal the line at $1,411.00 for 1921 relating in this manner that was charged directly to the municipalities.

The municipalities are billed with an interim rate which is intended to represent the approximate cost of the power supplied. At the end of each fiscal year the interim rate is adjusted to an actual cost basis and the municipalities receive an additional charge representing the difference between the amounts paid by them and the actual cost of power supplied to them , or if the amounts paid by them during the year exceeded the actual cost they receive credit for such excess. The revenue shown in the aforestated operating account includes the additional charges or credits to the municipalities.

The interim rates failed in the aggregate to meet actual costs for the years 1918 to 1921 inclusive, in the following amounts:

1918	$ 5,078.00
1919	4,964.00
1920	6,055.00
1921	1,687.00
Total -	$17,784.00

The operating results shown above are those in the published accounts of the Commission and are subject to an adjustment in respect of renewal charges. As shown on page 7 of this report, the Commission made an adjustment of renewal charges in the amount of $17,709.88, of which $10,484.70 exclusive of interest is applicable to the years 1918, 1919 and 1920, and has the effect of reducing the operating costs and fixed charges as shown by the aforestated

The municipalities are billed with an interim rate which is intended to represent the equivalent rate of the power supplied. At the end of each fiscal year the interim rate is adjusted to an actual cost basis and the municipalities receive an additional charge representing the difference between the amounts paid by them and the actual cost of power supplied to them, or if the amounts paid by them during the year exceeded the actual cost they receive credit for such excess. The process which is the alternative dividing amount includes the additional charges or credits to the municipalities.

The interim rate billed in the accounts is most actual costs. The Commission's Cost Unit on 1951 basis, in the following amounts:

1948	$ 2,[illegible]
1949	4,[illegible]
1950	6,[illegible]
1951	[illegible]
Total -	$17,[illegible]

The operating results shown above are those in the published accounts of the Commission and are subject to an adjustment in respect of removal charges. As shown on page 7 of this report, the Commission made an adjustment of removal charges in the amount of $17,708.88, of which $14,[illegible] represents of interest in applicable to the years 1950, 1951 and 1952, and the effect of deducting the operating costs and fixed charges is shown by the difference.

operating account and also the final costs per horse-power as follows:-

	1918	1919	1920	1921
Operating Expenses and Fixed Charges per Operating Account	$27,744	$55,126	$104,535	$132,992
Less - Reduction in Renewal Charges	1,708	3,392	5,384	-
Adjusted Costs	$26,036	$51,734	$99,151	$132,992
Horse-power billed	717.3	1248.2	2123.7	2639.5
Cost per h.p. billed as adjusted	$36.29	$41.45	$46.69	$50.40

The accounts of the municipalities have received credit for this adjustment.

From the operating account as adjusted, it will be noted that the cost per average horse-power billed increased from $36.29 in 1918 to $50.40 in 1921 or an increase of approximately 38 per cent. The following table, giving the detailed cost per horse-power billed, shows in what respects and to what extents the operating costs and fixed charges increased:

	1918	1919	1920	1921
Power purchased	$9.15	$12.16	$15.88	$17.59
Operating Costs	.57	2.89	2.38	1.16
Maintenance	7.01	2.45	1.61	2.66
Overhead and general expenses	2.55	3.74	3.99	4.83
Interest	9.52	11.79	11.56	12.04
Renewals on adjusted basis	7.14	8.17	7.63	7.94
Sinking Fund	-	-	2.14	3.93
Contingencies	.25	.25	1.50	.25
T o t a l	$36.29	$41.45	$46.69	$50.40

operating expenses and also the fixed charge per kilowatt-

	1918	1919	1920	1921
Operating Expenses and Fixed Charges per Operating Revenue	847.74%	924.33%	916.48%	910.32%
Loss - Reduction in Renewal Charges	1.77%	3.25%	4.26%	-
Adjusted Costs	849.51%	921.75%	872.18%	910.32%
Kilowatt-hour billed per k.w. billed as adjusted	7.74.5	1242.7	1143.7	1232.2
	924.30	921.97	920.97	921.40

The accuracy of the multiplication here involved credit for this adjustment.

From the operating expenses as adjusted, it will be noted that the cost per kilowatt kilowatt-hour billed increased from 924.30 in 1918 to 920.40 in 1921 or an increase of approximately 78 per cent. The following table, giving the detailed costs per kilowatt-hour billed, shows in what respects and to what extent the operating costs and fixed charges increased:

	1918	1919	1920	1921
Power purchased	4.12	3.16	3.16	3.17
Operating Costs	.87	2.89	2.39	1.18
Maintenance	7.01	2.45	1.81	2.68
Overhead and general expenses	2.22	1.74	2.37	1.72
Interest	4.24	11.77	12.04	12.02
Amounts on adjustment basis	7.16	8.17	7.83	7.36
Sinking Fund	-	-	2.14	2.22
Contingencies	.25	.28	1.00	.25
Total	$36.29	$41.46	$46.80	$50.40

We have on pages 7 and 8 of this report referred to a further revision of the renewal reserve fund rate with retroactive application, resulting in a reduction of approximately $25,400.00 in this reserve, of which reduction $22,600.00, or about 89%, has been applied as a credit to municipalities interested, and the balance of $2,800.00, or about 11%, added to contingency reserve. The renewal reserve rate having been reduced by this revision from 3% to 2%, approximately 89% of this reduction should be taken into account when considering the annual costs prior to October 31st, 1921. This further reduction will have the effect of slightly reducing the costs of power given in the foregoing table,-for instance in the year 1921, the reduction will be approximately $2.55.

It is, however, to be borne in mind that employment of the reserve funds of any undertaking or business in reduction of annual costs can confer no real benefit upon the owners of such undertaking or business as, although it reduces the amount which would otherwise be annually paid, it decreases any surplus of assets over liabilities.

Attention may also be directed in this connection to a recent award made in arbitration proceedings to which the Estate of M. F. Beach and the Commission were parties. During the period from May 1st, 1916, to April 30th, 1919, the Commission obtained its supply of power from the M. F.

Beach plant at Iroquois. No agreement as to price of this power has been made. Accounts were rendered to the Commission on the basis of $16.00 per horse-power per annum for power consumed, and could have been settled finally at this figure. The Commission, however, paid at the rate of only $12.00, this rate being also used by it in determining the annual costs of operation of the system. On February 18th, 1922, an action was commenced against the Commission for $8,190.78, the Commission admitting a liability of but $78.00. At a later stage the claim against the Commission by Beach was increased to $62,000.00, and was submitted to Mr. J. M. Robertson, C. E., of Montreal, as sole arbitrator, "to determine what reasonable and just price should be paid to the plaintiffs for the power furnished by them to the defendant from May 1st, 1916, to May 1st, 1919, and to fix the amount due the plaintiffs by the defendant after deducting the sum already paid the plaintiffs by the defendant". In his award, dated February 18th, 1923, the arbitrator directed that the Commission pay to the Executors of the Beach Estate the sum of $51,861.75, representing the unpaid balance of the value of the power supplied, interest included, and the Commission was also ordered to pay the costs in the action in the Supreme Court of Ontario, the costs in connection with the agreement to submit to arbitration, the costs of the arbitration and the arbitrator's fee.

Unless this award is set aside on the appeal which has, we understand, been taken against it, payment of it will

Peach plant at Niagara. The agreement as to price of this power has been made. Contracts were announced by the Commission on the basis of $18.00 per horse-power for power assumed, and could have been supplied finally at that figure. The Commission, however, paid at the rate of only $16.00; this rate being also used by it in determining the annual cost of operation of the system. In January 1911, an option was announced against the Commission for $4,150,16, the Commission admitting a liability of not $72,000. At a later stage the claim against the Commission by Peach was increased to $82,000.00, and was contested in the A. G. Ontario v. C.P.R. of Toronto case by arbitrator, the Imperial Judge Pasquin and Jay price should be paid in the relativity for the power furnished by them to the Government from May 1st, 1913, to May 1st, 1917, and to give the minute the plaintiffs by the defendant after deducting the amount already paid the plaintiffs by the defendant". In his award, Peach Pasquin 1918, the arbitrator directed that the Commission pay to the Government of the Bond Assets the sum of $4,171.10, representing the amount between the rate of the power supplied, interest included, and the Commission has taken exception to the award in the matter in the Supreme Court of Ontario, his court in association with the Government to assist in arbitration, the basis of the arbitration and the contractual law.

Unless this award is not binding on the report which has, we understand, been taken against it, payment of it will

exhaust the contingency reserve and the amount to be paid over and above the amount available from the contingency reserve will increase the balances due by municipal corporations and consequently the annual costs of power.

It appears clear that the Commission should not have continued to take power from the Beach Estate without an agreement as to price. The result of letting the matter run on as it did has been to place the Commission in the unpleasant position that we have just described.

Estimated Power Loads compared with Actual Power Loads

The following is a table of the actual horse-power loads taken by the municipalities as compared with the estimated loads upon which the Commission based its estimated cost for supplying power to the municipalities:

Municipality	Date Power was First Taken	Yearly Minimum Load	Yearly Maximum Load	Average Yearly Load to Oct.31/21	Estimated Load
		h.p.	h.p.	h.p.	h.p.
Alexandria	Jan. 1921	122.4x	122.4x	122.4x	300
Apple Hill	April 1921	10.8x	10.8x	10.8x	No estimate
Brockville	April 1915	297.5	1073.9	606.2	1000
Chesterville	March 1914	40.1	150.9	96.9	50
Lancaster	May 1921	14.0x	14.0x	14.0x	No estimate
Martintown	May 1921	7.8x	7.8x	7.8x	No estimate
Maxville	Feb. 1921	28.8x	28.8x	28.8x	200
Prescott	Dec. 1913	171.1	216.1	197.2	300
Williamsburg	April 1915	11.5	22.0	18.2	45
Winchester	Jan. 1914	53.2	90.9	68.9	100

x - Municipalities not in operation full year.
Load stated on basis of period of operation.

[illegible] the municipal resources and the amount to be paid over and above the money available from the municipal resources will increase the balances are by municipal enterprises and accordingly the annual sums of payment.

It appears also that the Municipalities which have contributed to this power from the Board Estate division to expenditure as to prices. The results of taking the service as it is all has been to place the Municipalities in the employment position that we have just described.

Estimated power issues compared
with actual power issues

The following is a table of the actual power-issues based by the municipalities as compared with the estimated issues upon which the Commissioner based his service as well as the supplying power to the municipalities:

Municipality	Year	Power issues 1924	Yearly Minimum Demand 1924	Yearly Maximum Demand Year ending June 30	Origin of Load
			[illegible]	[illegible]	[illegible]
Lisgar	Jan. 1918	122.0c	102.6c	127.3c	[illegible]
Apple Hill	Apr-31 1920	20.0c	15.5c	31.0c	By estimate
Prescott	April 1912	417.0	1972.9	440.8	1000
Smiths Falls	Dec. 1924	42.1	1.0c.5	43.7	15
Lanark	July 1921	30.0c	12.0c	12.0c	By estimate
Burlington	Dec. 1920	7.0c	7.0c	7.0c	By estimate
Perth	Jan. 1921	58.0c	36.0c	62.0c	120
Brockville	Aug. 1919	483.1	2144.1	147.1	120
Williamsburg	April 1920	31.0	30.0	32.0	50
Kingston	Jan. 1919	31.0	30.5	40.4	180

x - Municipalities not in operation Dec. 1920.
Load stated as basis of payment of operation.

Not considering the municipalities in which loads were not estimated or municipalities which had not been in operation a full year at October 31st, 1921, the estimated load exceeded the actual yearly average load by approximately 46 per cent.

Comparison of Estimated Cost per horse-power with Actual Cost per horse-power

The following table shows the estimates as submitted to the municipalities on the St. Lawrence System by the Commission as compared with the actual cost of power supplied to them for the full year periods of operation:

Municipality	Yearly Minimum Actual Cost per h.p.	Yearly Maximum Actual Cost per h.p.	Yearly Average Actual Cost per h.p.	Estimated Cost prepared by Hydro	Per cent of Actual Cost over estimated Cost
Alexandria	$99.92x	$99.92x	$99.92x	$53.50	86
Apple Hill	127.37x	127.37x	127.37x	60.00	112
Brockville	24.81	50.61	45.40	24.04	80
Chesterville	48.87	83.05	67.62	35.00	93
Lancaster	337.63x	337.63x	337.63x	97.00	248
Martintown	140.50x	140.50x	140.50x	54.00	160
Maxville	171.96x	171.96x	171.96x	54.35	216
Prescott	18.06	50.43	32.26	24.54	31
Williamsburg	29.75	117.49	53.39	26.00	105
Winchester	35.16	73.41	57.86	24.00	141

x - Municipalities in operation less than full year. Rates per horse-power stated on annual basis.

The actual cost of power as shown above has exceeded the estimated cost in all of the municipalities. Disregarding municipalities which at October 31st, 1921, had not been in operation a full year, this excess ranged from 31 per cent. to

The operating per centages in mining years were not attained or maintained which had not been in operation a full year or longer. Also, the existing loss exceeded the actual yearly average loss by approximately 50 per cent.

Comparison of Estimated Cost per Ton-Mile
with Actual Cost per Ton-Mile

The following table shows the estimated by industrial as the constituents as the 18. Operations operated by the Dominion as managers with the actual cost of every constituent in the ten full year periods of operation.

Constituents	Yearly Maximum Actual Cost per Ton.	Yearly Maximum Actual Cost per Ton-Mile Cents.	Yearly Average Actual Cost per Ton-Mile Cents.	Estimated Cost per Ton-Mile Operations by Dominion Coal Co.	Per Cent of Actual Loss over Estimated Cost
Electricity	699.02x	616.00x	499.94x	300.00	66
Apple Bits	127.37x	127.37x	127.37x	76.87	111
Brushwood	24.32	20.81	16.86	14.35	17
Sharpening	49.07	03.08	67.63	34.00	99
Lumber	627.42x	617.42x	527.26x	17.00	2[illegible]
Supplies	140.02x	140.02x	140.02x	14.17	1[illegible]
Equipment	171.72x	171.72x	171.72x	04.75	3[illegible]
Dynamite	18.00	00.63	83.36	14.06	31
Millstone	29.73	117.49	83.37	36.00	109
Blacksmith	22.13	73.61	47.36	14.89	161

x - Indicates in operation less than full year. Based on Jan-June actual costs.

The actual work is proof to cover more than actually the maximum work is all of the constituents. Strengthening constituents which by October 31st, 1923, had not been in operation a full year. This causes [illegible] 25 per 100. In

141 per cent. above the estimated cost as submitted by the Commission. Discrepancy between estimated and actual costs is not unusual in undertakings of the Commission.

During 1921, the Commission began supplying power to Alexandria, Apple Hill, Lancaster, Martintown and Maxville, and during the broken period ending October 31st, 1921, the cost of power to these municipalities resulted in rates ranging from 86% to 248% in excess of the estimated cost of such power as supplied by the Commission. These excessive rates are due largely to the small quantities of power taken as compared with the respective capital investments upon which the municipalities have to carry fixed charges.

The case of Lancaster with a rate of $337.63 per horse-power may be used as an illustration. The power furnished this municipality is obtained from a substation at Martintown at the same rate as is charged Martintown to which is added the entire cost of transmitting the power from Martintown to Lancaster, a distance of twelve or thirteen miles. The investment in the transmis ion line from Martintown to Lancaster at October 31st, 1921, amounted to approximately $32,000.00, and the fixed charges to be paid by Lancaster amounted to $208.15 per horse-power of the electrical energy taken, as this line served no other customers.

The following shows the proportion of operating expenses and fixed charges entering into the total cost per

horse-power supplied the aforementioned municipalities:

Municipalities	Operating Expenses per h.p.	Fixed Charges per h.p.	Total
Alexandria	$44.75	$55.17	$99.92
Apple Hill	80.98	46.37	127.35
Lancaster	129.48	208.15	337.63
Martintown	97.57	42.97	140.54
Maxville	79.54	92.42	171.96

Power Supplied by the Commission to others than Municipal Corporations

The Commission is now supplying power to three companies on the St. Lawrence System at the following rates:

Company	Rate per H.P.
Howard Smith Paper Mills, Ltd. (Rates vary depending on quantity of power taken)	$27.15
Glengarry Pulp Company (Successors to the Cornwall Pulp & Paper Company against which the Commission has an unsecured claim for $46,838.98)	26.00
Eugene F. Phillips Electrical Works, Limited,	35.00

The Glengarry Pulp Company and the Eugene F. Phillips Electrical Works, Limited, began taking power from the Commission during the present fiscal year while the Howard Smith Paper Mills, Limited, first received power during the fiscal year 1919. Up to October 31st, 1921, the Commission incurred a loss of $5,694.00 in supplying power to the Howard

Large-power supplies the aforementioned municipalities:

Municipality	Operating Expenses Per Ann.	Plant Charges Per Ann.	Total
Algonquin	244.72	413.17	657.89
Apple Hill	80.95	46.37	127.32
Lancaster	329.40	508.15	837.55
Martintown	97.37	42.97	140.34
Maxville	78.94	92.44	171.38

Power Supplied by the Dominion
to other Large Municipal Undertakings

The Dominion is now supplying power to three companies on a [illegible] system at the following rates:

Energy	Rate per H.P.
Ferguson Falls Pulp Mills, Ltd. (Based very generally on quantity of power taken)	6.13
Dingwall Pulp Company (Determined by the Dominion Pulp & Paper Company Limited which the Dominion has in reserve which for [illegible])	14.83
Section 7. Publicly Controlled Power. Limited.	30.00

The Dingwall Pulp Company and the Section 7. Publicly Controlled Power, Limited, compare favorably with the Dominion's cost of power which the Ferguson Falls Pulp Mills, Limited, have received during the fiscal year 1929. By an October item, 1931, the Dominion increased a rate of $4,494.00 in supplying power at the Dominion

Smith Paper Mills, Limited, of which $4,281.00 was charged to the contingency reserve and the balance of $1,413.00 was charged to the municipalities on the system.

The following shows the revenue arising from power supplied private companies with the operating expenses and fixed charges applicable thereto:

	1919	1920	1921
Revenue	$3,969	$22,870	$32,966
Operating cost including Power Purchased	$2,715	$14,010	$20,827
Fixed Charges	2,368	12,027	13,552
	$5,083	$26,037	$34,379
Loss -	$1,114	$ 3,167	$ 1,413

In accordance with the terms of an agreement dated May 26th, 1921, signed by the officers of the Cornwall Pulp & Paper Company, Limited, but not executed by the Commission, the Commission agreed to hold in reserve 2,000 horse-power of electrical energy for the company.

The company agreed to pay $25.00 per horse-power for said electrical energy or to pay as a minimum charge for 75 per cent. of the electrical energy held in reserve. The company also agreed to deposit a $10,000.00 bond with the Commission as security for any losses that the Commission might sustain in supplying such power.

The Commission began supplying power to the company on May 26th, 1921, but the bond was not deposited by the company and subsequently the company went into liquidation. Mr. Clarkson comments on the matter as follows in his 1921 audit report:

> "Between May 26th and October 31st, 1921, the system furnished on an average approximately 1690 horse-power to the Cornwall Pulp & Paper Company, Limited. After such power had been supplied and when $1,000 had been received in part payment for it, the company became financially embarrassed and there would as at present appear to be little if any prospect of the Commission realizing the balance due to it as of date October 31st, 1921, of $17,621.87. The cost of such power was accordingly included in the cost of operation of the system payable by the municipalities, while no credit as revenue was taken for $17,621.87 owing by the Cornwall Pulp & Paper Company, Limited."

The Commission filed a claim with the liquidator in the amount of $46,838.98, which sum included the $17,621.87 previously referred to together with the minimum monthly charges and interest to July 31st, 1922.

The engineers of the Commission have prepared an estimate of the costs which the Commission incurred in supplying power to the Cornwall Pulp & Paper Company during the aforementioned period. This estimate is in the amount of $10,000.00, and applying against this expense, the Commission collected from the company $1,500.00, leaving the Commission's actual loss at approximately $8,500.00

Upon inquiry the Secretary of the Commission expressed the opinion that inasmuch as the Commission was an unsecured

The Commission began supplying power to the company on July 1st, 1921, but the line was damaged by the company and considerably the company took line litigation. Mr. Clarke commenced on the matter as follows in his 1921 annual report:

> "Between May 26th and October 31st, 1921, the system installed on an average approximately 1247 horse-power to the Cornwall Pulp & Paper Company, Limited. After such power has been supplied and over 21,000 has been received in part payment for it, the company became financially embarrassed and there which is at present appears to be likely it may prove of the Commission realizing the value due to it as at date October 31st, 1921, of $17,821.27. The cost of such power was accordingly included in the local expenditure of the system for the month of October, while at credit to Cornwall was given for $17,821.27 being by the Cornwall Pulp & Paper Company, Limited."

The Commission filed a claim with the liquidator in the amount of $19,324.06, which was included for $17,821.27 previously returned to Cornwall with the minutes monthly charges and interest to July 31st, 1923.

The engineers of the Commission have proposed an estimate of the costs which the Commission incurred in supplying power to the Cornwall Pulp & Paper Company during the aforementioned period. This estimate is in the amount of $20,320.40, and applying against this expense, the monthly rebates from the company $1,500.40, leaving an amount which is approximately $18,820.

Just before the beginning of the Commission accounts the relative that immediately as the Commission was an unsecured

creditor there was little, if any, prospect of realizing this claim. Had the Commission insisted, as it should have done, upon being furnished by the company with a satisfactory bond for $10,000.00, as required by the contract, it would have been recouped the cost incurred in supplying power to this company.

Growth of Market for Power
and Future Sources of Supply

Since the commencement of power supply in 1913 and 1914 up to the end of 1918, the actual amount of power used on the system was less than 600 horse-power. Since the end of 1918, the growth of the load has been remarkably rapid; the maximum peak for 1919 was 1,600 horse-power; for 1920, 2,450 horse-power; for 1921, 4,600 horse-power; and for 1922, 4,908 horse-power. The 1922 load does not include the Phillips Company's load at Brockville as the figures are given for the fiscal year ending October 31st, and that consumer had not then taken power. The large increase in load in 1921 is largely due to the additional municipalities served. As already pointed out, the addition of the Phillips Company's load for 1923 may add from 1,000 to 2,000 horse-power to the total demands, and with the normal growth of service in the district the peak demand for 1923 may possibly be 7,000 horse-power.

The problem of serving rural customers is difficult, the average number of consumers per mile of transmission line being small. The experience of the Commission up to the present time indicates that only three or four consumers per mile on the average are obtainable.

The percentage of consumers to population served at the end of 1921 was about 20.5.

The situation at the present time is that the St. Lawrence System has a large excess of available power at its main Cornwall transformer station, and that there are many places in the district which do not yet receive power from the Commission. In certain centres the people are apparently quite satisfied to continue under their present private arrangements, and in some of the places already mentioned it will apparently be difficult for the St. Lawrence System to secure these municipalities as partners.

The question of ultimate use of power on the system, and of the future ultimate source of power supply for the whole of the population, is one which depends partly on the relations of the local private companies and the municipalities to the Commission. From the table of miscellaneous power plants in the St. Lawrence System territory, shown on page 12 of our Consulting Engineer's report, which is being submitted herewith, and from the fact that large new power developments are contemplated within commercial transmission distance, it is evident that a

The problem of serving rural districts is difficult. The average number of consumers per mile of transmission line being small. The conditions of the population as to the present time indicates that only three or four consumers per mile on the average are obtainable.

The percentage of consumers to population served at the end of 1921 was about 20.3.

The situation at the present time is that the Dr. Lawrence System has a large excess of available power at its main Dispatch transformer station. And that there are many places in the district which do not yet receive power from the Commission. In certain districts the people are apparently quite satisfied to continue using their present private arrangements, and in some of the places already established it will apparently be difficult for the Dr. Lawrence System to secure these municipalities as patrons.

The question of giving the of power on the system, and of the future utilization of power wholly for the wants of the population. In one point supports partly on the development of the least private consumers and the availability to the transformer. Thus the task of transmitting power plants in the Dr. Lawrence System territory, shown in page 12 of our Examining Engineer's report, which is being submitted herewith, and from the fact that large new power developments are contemplated within commercial transmission distances, it is evident that a

comparatively large capacity in private power plants could be made available to serve the district in competition with the Commission. Some dissatisfaction has been privately and publicly expressed with the Commission in the district, and there is apparently a widespread feeling of sympathy in the district for the continuation of private ownership and fixed rates. The M. F. Beach Company, for example, has made certain definite offers to supply power to certain places at fixed prices over a term of years. If the stated future capacity of this company be realized it will doubtless be sufficient to supply a large mileage of rural lines and serve a large population with power, possibly paralleling the lines of the Commission in several places. From the viewpoint of the rural consumer the question of who supplies the power is not nearly so important as the total cost of the service. Some of the rural inhabitants think that the Ontario Government should give the same assistance to the Beach Company's rural lines as would be done for the rural lines of the Commission, especially as this company is said to be prepared to make satisfactory contracts at fixed rates for the rural areas contemplated. Some solution of the problem, for example, co-operation, should be found whereby unnecessary duplication of transmission systems may be avoided, and at the same time permit those, who wish to receive power from sources not now controlled by the Commission, to do so under terms satisfactory to the consumer and to the supplying company. The purchase

of power from the Beach plant at Iroquois by the Commission might be considered and the taking over and extending of the rural system now owned by the Beach Company, paying a fair price for the power supplied from the Beach plant and distributing it in the usual way to the rural consumers. An objection to this from the viewpoint of the Commission would probably be that they now have a substation near Cornwall of ample capacity for the whole system, and that they have rural lines under construction, or contemplated, to serve the whole system. Even with the help of the Provincial Government grant of one-half the capital cost of the primary rural transmission lines, the problem of serving rural customers satisfactorily is very difficult of solution and is complicated in this section of the Province by the presence of competitive privately-owned systems. An alternative solution might be the purchase of the Beach interests as a whole.

The ultimate source of power supply for the St. Lawrence System when all the available local plants will have been used to full capacity, or else discarded, is undoubtedly transmitted power either from the Cedars Rapids plant or from other large plants contemplated at Carillon, Chats Falls and Bryson on the Ottawa River, or at the Chelsea and the Paugan sites on the Gatineau River, where large amounts of power aggregating several hundred thousand horsepower can be made available. The proposed development of the St. Lawrence

of power from the Seven plant is imported by the Manitoba might be maintained and the making over its customing at the rural areas now owned by the Seven Company, paying a fair price for the power imported from the Seven plant and distributing it in the rural and by to the rural customers. As objective to this from the viewpoint of the distribution system probably be that they may have a substitute more dependent or single supply for the whole system, and that they have rural lines under construction, or contemplated, to serve the whole system. Even with the help of the provincial Government grant of one-half the capital cost of the primary rural transmission lines, the purchase of existing rural customers distributing is very difficult of attaining and is complicated in this section of the Province by the presence of competitive privately-owned systems. An alternative solution might be the purchase of the Seven Company's as a whole.

The ultimate source of power supply for the St. Lawrence Sprlus over all the available local plants will have been used to full capacity, or else unavailable in the medium transmitted power either from the Lakeside Diesel plant or from other large plants contemplated or duplicated, Shell Falls and Pagwa on the Ottawa River, or at the Chelsea and the Paugan sites on the Gatineau River, where large amounts of power approaching several hundred thousand horsepower can be made available. The proposed development of the St. Lawrence

River power would doubtless provide all the power necessary for the St. Lawrence System for all time to come.

If the Rideau System and the Ottawa System be extended southwards and eastwards, and the St. Lawrence System be extended northwards, it is possible that in the future inter-connecting lines may be constructed so that any of these systems might receive power either from the water powers on the St. Lawrence River or from the Ottawa and Gatineau Rivers.

The present indications are that the actual total amount of power used on the St. Lawrence System will not reach the present capacity of the transforming station near Cornwall for many years to come.

Extension of System

In considering extensions for the St. Lawrence System, consideration should be given to the question of utilizing local sources of power and direct routes of transmission lines from these sources where such are available. The proposals of the Beach Company are an example of the possibilities in this connection.

The market for power is divided in the district as between the Commission and other interests. The total population served at the present time is only about one-quarter that of the district. The percentage of consumers to population now served is about 20 per cent., which compares fairly well with similar ratios in other districts.

Given power would absorbing practically all the power generated for the St. Lawrence System for all time to come.

If the Niagara System and the Ottawa System be operated separately and exclusively, and the St. Lawrence System be operated independently, it is possible that in the future inter-connecting lines may be constructed so that if there arises night results power either from the Niagara or the St. Lawrence River or from the Ottawa or Georgian Bay.

The various industries are that are almost-only users of power used on the St. Lawrence System are those the present capacity of the transmission stations were designed for very more **COPY**

Saving at Ottawa

In considering economies for the St. Lawrence System, consideration should be given to the question of utilizing local reserves of power and direct rates of transmission lines from other neighbouring centres that are available. The possibilities in the Ottawa Valley are an example of the possibilities in this connection.

The market for power is divided in the district as between the Commission and other interests. The total population within of the present time is only about one-quarter that of the district. The percentage of consumers in population has varied in minor ways. Only one-third varies with similar values in other districts.

The use of electricity per ordinary consumer is apparently less in this district than in many others. The recent growth in load indicates that the demands are growing and it is likely that a considerable increase will take place in the power demand of the district. The ultimate demand of the whole system can probably be always well covered by transmitted power either from the St. Lawrence River or the Ottawa River or the Gatineau River.

Commission's Relations
with the Town of Cornwall

In July, 1921, a vote was taken in the Town of Cornwall as to whether or not a contract between the town and the Stormont Electric Light & Power Company for a supply of power to the town should be renewed. The vote resulted in a majority for renewing the agreement with the company. It was shown in evidence given before us that, at the request of an association known as the Citizens' League, the Commission took a very active part in the campaign and strongly opposed the renewal of the contract. The expenses incurred in the efforts made by the Commission to defeat the by-law authorizing the renewal of the agreement amounted to approximately $1,600.00, of which sum $803.14 was incurred by the Ontario Municipal Electric Association and paid by the Commission to it. The right of the Commission to expend moneys in its hands for such objects as the defeat or passage of a municipal

power by-law has been seriously questioned, as has also the authority of the Commission to charge such expenditures to the Province. Any addition to the consumers of power in a system has, of course, a tendency to decrease costs to all consumers of that system and reasonable efforts should be made by the Commission to safeguard and promote the interests of its customers. Apart, however, from the absence of any definite provision by the Legislature, it would seem that such expenses as were incurred in this case, if properly payable by anyone, should be payable by the St. Lawrence System and not by the Province as a whole. It is for the Legislature to decide for what purposes the funds voted by it for the Commission may be used and the intention of the Legislature should be set forth clearly and definitely so that there may be no possible ground for misunderstanding.

Shortly after the vote was taken at Cornwall, the Commission substantially increased the rates it had quoted to the Eugene Phillips Company for power that would be supplied if it located at or near Cornwall, and soon afterwards the Eugene Phillips Company located at Brockville.

Doubtless there were other considerations which led to the Eugene Phillips Company locating at Brockville, but there seems to be no doubt that the raising of the rates that would be charged it if it were to locate at Cornwall was an important factor in determining the course which it took. The view of the Commission appears to have been that

as Brockville was a Hydro municipality, while Cornwall was not, it was justified in taking the steps that it did to promote Brockville's interests. This view was not unnatural. On the other hand, the people of Cornwall, looking at the matter from their standpoint, point out that while not a Hydro municipality, they as citizens of the Province provide funds with which the developments of the Commission are made and should not be discriminated against because they choose to secure their power from other sources. The increase made by the Commission, almost immediately after the by-law to extend the existing agreement was carried, of the rate which it had given the Eugene Phillips Company in the event of it locating at Cornwall, appears to have created a feeling amongst a proportion of the people of Cornwall strongly antagonistic to the Commission.

It is quite apparent from the evidence given by Mr. R. T. Jeffrey, Assistant Engineer in charge of Municipal Engineering Work, etc., for the Commission, at the hearing in Cornwall that the rate quoted, after the vote was taken, to the Eugene Phillips Company, if it located in Cornwall, was placed beyond the economic limit necessary to deliver power at cost, and was governed to some extent by a desire to favour the municipality of Brockville. Mr. Jeffrey in his evidence on this point says:

as Brownsville was a Spare municipality, while Cornwall was not, it was justified in taking the power from it and to transfer Brownsville's interests. This law was not immoral, as the other hand, the people of Cornwall, finding it impossible from their private standpoint, plied for that which was a Public municipality. Only on evidence of the previous property claim with which the Corporation of the Commission are being not should not be distortionated against Cornwall only because in making their power from other matters. The increase made by the Commission, stands immediately after the by-law to amend the original agreement was carried, at the rate which is not so far the Canadian Phillips Company in the event of it locating at Cornwall, appears to have created a feeling amongst a portion of the people of Cornwall strongly antagonistic to the Commission.

It is quite apparent from the evidence given by Mr. E. G. Lafrey, Assistant Engineer in charge of municipal Contracting Work, etc., for the Commission, of the holding in Cornwall that the rate payers after the year 1910, in the Canada Phillips Company, if it is located in Cornwall, was given by a Public municipality, but was changed in most cases by a Public power as such, and was changed in most cases by a Public to force the municipality of Brownsville. Mr. Lafrey in his evidence on this point says:

"We did change the rate to Cornwall and it was on the basis of a revision of our cost on a ten-year basis instead of a thirty, and also on the basis of representation made to the Commission by the Brockville delegation that came to the office and protested that it was unfair to their municipality, who had assumed all of the obligations in connection with the system that a municipality not having a contract nor assuming any of its obligations should be treated on the same basis."

Q."So there was another element in the contract?"

A."There was another element came in ....."

In addition to using, in a measure, arbitrary methods in the fixing of rates quoted to the Town of Cornwall, the Commission informed the City Council that it would be impossible for it to obtain rates for power from the Cedars Rapids Company because that company had made an agreement with the Commission that the company would not compete with the Commission in Cornwall. If this statement was true, the Town was placed by the Commission in a position in which if it were to get additional power, it had to buy from the Commission at the Commission's price. This was coercion of a character seldom adopted by a public body.

The goodwill of such centres of population as Cornwall is a valuable asset to the Commission but is

unlikely to be secured by the course which the Commission followed in its dealings with that municipality.

DATED, JUNE 14th, 1923.

W. D. Gregory, Chairman

M. J. Haney

Lloyd Harris

J. A. Ross

R. A. Ross.